

Title (en)
SURFACE TREATMENT SOLUTION COMPOSITION FOR TERNARY HOT-DIP ZINC ALLOY-PLATED STEEL SHEET, PROVIDING EXCELLENT CORROSION RESISTANCE AND BLACKENING RESISTANCE, TERNARY HOT-DIP ZINC ALLOY-PLATED STEEL SHEET SURFACE-TREATED USING SAME, AND MANUFACTURING METHOD THEREFOR

Title (de)
OBERFLÄCHENBEHANDLUNGSLÖSUNGSZUSAMMENSETZUNG FÜR TERNÄRES FEUERVERZINKTES STAHLBLECH MIT AUSGEZEICHNETER KORROSIONSBESTÄNDIGKEIT UND SCHWÄRZUNGSBESTÄNDIGKEIT, UNTER VERWENDUNG DAVON OBERFLÄCHENBEHANDELTES, TERNÄRES FEUERVERZINKTES STAHLBLECH UND HERSTELLUNGSVERFAHREN DAFÜR

Title (fr)
COMPOSITION DE SOLUTION DE TRAITEMENT DE SURFACE POUR TÔLE D'ACIER PLAQUÉE D'ALLIAGE DE ZINC PAR IMMERSION À CHAUD TERNAIRE, FOURNISSANT UNE EXCELLENTE RÉSISTANCE À LA CORROSION ET AU NOIRCISSEMENT, TÔLE D'ACIER PLAQUÉE D'ALLIAGE DE ZINC PAR IMMERSION À CHAUD TERNAIRE TRAITÉE EN SURFACE L'UTILISANT, ET SON PROCÉDÉ DE FABRICATION

Publication
EP 3730672 B1 20221116 (EN)

Application
EP 18892138 A 20181220

Priority
• KR 20170177624 A 20171222
• KR 2018016284 W 20181220

Abstract (en)
[origin: EP3730672A1] The present invention relates to a chromium-free surface treatment solution composition to be applied to the surface of a metal material, and a metal material surface-treated with the composition. More specifically, the present invention relates to a chromium-free surface treatment solution composition for improving the corrosion resistance, blackening resistance and alkali resistance of a ternary hot-dip zinc alloy-plated steel sheet, and provides: a surface treatment composition comprising, on the basis of 100 wt% of the solid part of the composition, 35-45 wt% of a water-soluble polyurethane resin, 25-40 wt% of a water-soluble acrylic emulsion resin, 5-15 wt% of a curing agent, 3-10 wt% of a silane compound, 0.5-1.5 wt% of a titanium-based compound, 0.3-2.0 wt% of a zirconium-based compound, 1-3 wt% of phosphoric acid compound, 1-2 wt% of a coating adhesion enhancer and 0.1-1 wt% of a lubricant wax; a ternary hot-dip galvanized steel sheet surface-treated therewith; and a method for manufacturing a ternary hot-dip galvanized steel sheet by carrying out surface treatment using the composition.

IPC 8 full level
C23C 22/07 (2006.01); **C09D 7/40** (2018.01); **C09D 133/00** (2006.01); **C09D 175/06** (2006.01); **C23C 2/06** (2006.01); **C23C 2/26** (2006.01); **C23C 2/40** (2006.01); **C23C 28/00** (2006.01)

CPC (source: EP KR US)
C09D 5/002 (2013.01 - EP); **C09D 7/40** (2017.12 - EP KR); **C09D 7/61** (2017.12 - EP); **C09D 7/63** (2017.12 - EP); **C09D 133/00** (2013.01 - EP KR); **C09D 175/06** (2013.01 - EP KR); **C23C 2/06** (2013.01 - EP KR); **C23C 2/26** (2013.01 - EP KR US); **C23C 2/29** (2022.08 - KR); **C23C 2/40** (2013.01 - EP KR); **C23C 22/07** (2013.01 - EP KR); **C23C 28/00** (2013.01 - EP); **C23C 28/3225** (2013.01 - KR); **C08K 5/05** (2013.01 - EP); **C08K 5/5415** (2013.01 - EP); **C08K 2003/329** (2013.01 - EP); **C23C 2222/20** (2013.01 - KR)

Designated contracting state (EPC)
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

DOCDB simple family (publication)
EP 3730672 A1 20201028; **EP 3730672 A4 20210224**; **EP 3730672 B1 20221116**; ES 2934840 T3 20230227; KR 102075214 B1 20200207; KR 20190076099 A 20190702; WO 2019124990 A1 20190627

DOCDB simple family (application)
EP 18892138 A 20181220; ES 18892138 T 20181220; KR 20170177624 A 20171222; KR 2018016284 W 20181220